

Remote Sensing Applications Division (RSAD)

CDR Program Office

Weekly Report for Aug 5, 2011 John J Bates, Chief



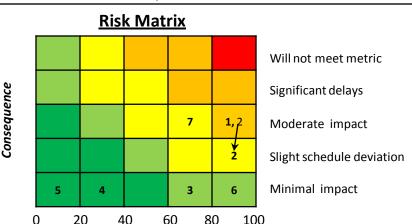
CDR Program Office

FY11 Climate Data Records

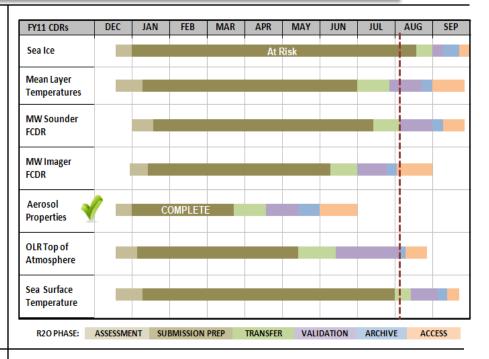
Weekly Report –Aug 5, 2011

- 1 Sea Ice
 - Met with developer may have problem serving data by 9/30
- **↓2** Mean Layer Temperatures
 - Met with PI, contract in place, good progress on documentation
- (3) Microwave (MW) Sounder FCDR
 - PI will make final deliveries next week
- 4 Microwave (MW) Imager FCDR
 - Tape problem is making Access of data difficult
- S Aerosol Properties
 - CDR is available for public access Completed June 16
- 6 Outgoing Longwave (LW) Top of Atmosphere
 - SA complete Waiting on final data file from PI to archive
- **7** Sea Surface Temperature
 - CICS Contract approval moving slowly; SLA signed by NODC





Probability of occurrence



Risk and Mitigation

Sea Ice

• Daily Schedule developed – Jeff met with PI, he seems on board

Mean Layer Temps

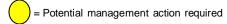
• Daily Schedule developed – contract in work for documentation delivery

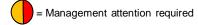
Sea Surface Temp

- NCDC/NODC SLA signed by NODC
- CICS contract moving slowly Janice looking into pre-award options

PREDECISIONAL DRAFT INFORMATION







Sea Ice

CDR Product: TCDR - Sea ice concentration, 1979-2010 (20 GB) **GEOSS Societal Benefit:** Climate, Water, Ecosystems, Agriculture

Project Status

- Met with Developer at CDR meeting reviewed schedule
 - draft CATBD and code will be sent next week
 - she said they may not be able to host data by Sep 30
 - -- we will host the data if they can't as a backup plan
- SA draft sent to PI for review PI sent responses back
- Jeff went over schedule with PI on June 30 during NCDC visit
- SLA draft was given to PI at the meeting on June 30 on hold
- Sample NetCDF files, a list of global attributes, and sample CDR code reviewed; Comments and suggestions provided to PI

Next Action / Milestone

- PI deliver inputs on SA (7/18) done
- PI deliver completed sample Files, Draft CATBD, Partial code (8/15)
- TM return comments on sample files, CATBD, and code (8/19)



- Schedule for NSIDC product and NCDC R2O team is very tight
 - Developed detailed schedule to help prevent further slips
- NSIDC will be serving the data to the public
- PI does not have much control over the center-wide dev schedule
- The codes that will be delivered are pieces of the NSIDC operational system

ID	Task Name	Status	Start	Ston		FY11 Q1			FY11 Q2			FY11 Q3			FY11 Q4	
IU	I dSK NdIIIe	Status	Start	Stop	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	Initial Assessment	100	12/7/2010	1/7/2011												
2	Transfer Prep	50	1/7/2011	8/15/2011												
2a	Comment Source Code	50	4/15/2011	8/15/2011												
2b	Create Docs (CATBD, Flow Chart, MM, Readme)	50	1/7/2011	8/15/2011												
2c	Convert data from binary to NetCDF	50	3/1/2011	8/15/2011												
3	Tranfer Code, Docs, and Data	0	7/15/2011	8/31/2011												
4	Verify Code, Docs, and Data	0	7/31/2011	9/7/2011												
5	Archive Code, Docs, and Data	0	8/15/2011	9/21/2011												
6	Provide Access to Code, Docs, and Data	0	9/1/2011	9/30/2011												

Mean Layer Temperatures

CDR Product: TCDR - Monthly gridded anomalies for three layers (LT, MT, LS), 1978-2010 (60 GB)

GEOSS Societal Benefit: Energy, Climate, Ecosystems

Project Status

- Met with PI at AMS conference (Jeff, Lei, Dan, Dongsoo, Phil)
 - Decided documentation could be done in a two weeks with funding for two FTE to work on it
 - SS contract has been approved at NCDC and sent to PI
- PI and team have sent about a dozen codes and the flow chart
- PI has staged entire dataset with checksums for archive to pull
- Mike Urzen has created sample netCDF files for 2 of the 3 CDR file types.
 - he will run on all ASCII files once they have been archived

Next Action / Milestone

- PI create checksums for ASCII files (7/22) done
- Finalize SA (7/25) done
- Archive ASCII files (7/26)
- PI Deliver Draft CATBD (7/29) Roy Spencer will create first draft



- Data is ASCII format Mike Urzen will convert to NetCDF
- PI has limited resources available to work on code clean up, comments and documentation – contract in place

ID	Task Name	Status	Start	Ston		FY11 Q2			FY11 Q3			FY11 Q4	
IU	Task Name	Status	Start	Stop	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	Initial Assessment	100	1/1/2011	1/15/2011									
2	Transfer Prep	65	1/15/2011	8/5/2011									
2a	Comment Source Code	75	1/15/2011	7/29/2011									
2b	Create Docs (CATBD, Flow Chart, MM, Readme)	50	3/15/2011	8/5/2011									
2c	Convert from ASCII to NetCDF	50	4/30/2011	8/1/2011									
3	Tranfer Code, Docs, and Data	0	6/21/2011	8/5/2011									
4	Verify Code, Docs, and Data	0	7/15/2011	8/21/2011									
5	Archive Code, Docs, and Data	0	8/7/2011	9/7/2011									
6	Provide Access to Code, Docs, and Data	0	9/1/2011	9/21/2011									

Microwave Sounder FCDR

CDR Product: FCDR - AMSU-A Brightness Temperature, CH 9; 2001 - 2010 (100 GB)

GEOSS Societal Benefit: Climate, Water, Ecosystems

Project Status

- Had PI here during CDR conference
 - PI plans to send everything by next week
 - PI discussed Fair Use Clause and NCAR copyright during CDR conference
- · Received final version of code and readme
- Sent SA to PI
- CDRP Decision was made, after telecon with PI, to proceed with CH9 only - the risk of CH7 not meeting IOC CDR requirements was too high

Next Action / Milestone

- PI deliver Flow Chart and MM (7/27) 50%
- PI deliver final netCDF files (8/1) done



- PI concerned about his source code being widely available
 - PI would like to be the one to distribute it
 - Need to finalize policy on source code release

ID	Task Name	Status	Start	Ston		FY11 Q2			FY11 Q3			FY11 Q4	
IU	Task Name	Status	Start	Stop	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	Initial Assessment	100	1/1/2011	1/15/2011									
2	Transfer Prep	90	1/15/2011	7/28/2011									
2a	Comment Source Code	90	1/15/2011	7/28/2011									
2b	Create Docs (CATBD, Flow Chart, MM, Readme)	90	3/15/2011	7/28/2011									
2c	Format Data for delivery	90	4/30/2011	7/28/2011									
3	Tranfer Code, Docs, and Data	25	6/1/2011	8/8/2011									
4	Verify Code, Docs, and Data	25	7/1/2011	8/15/2011									
5	Archive Code, Docs, and Data	0	8/1/2011	9/8/2011									
6	Provide Access to Code, Docs, and Data	0	9/1/2011	9/21/2011									
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Microwave Imager FCDR

CDR Product: FCDR - Intercalibrated SSM/I Brightness Temperatures (V6), 1987 – 2010 (1720 GB)

GEOSS Societal Benefit: Climate, Water, Ecosystems

Project Status

- Problems with archive tape drive has slowed Access branch from getting complete dataset on THREDDS
 - Steve's wife is having a baby "expecting" more delays ©
- Data, source code, and doc packages are archived
- · Sent sample files to Access for initial evaluation
- TM completed FCDR data production on local server
- TM completed CATBD
- TM completed README file
- Completed source code comments and created source code header document with robodoc
- Submitted all documents and code into Subversion repository

Next Action / Milestone

- Get data on THREDDS 50%
- Update CDR web page



Project Risks

Minimal risk involved

ID	Task Name	Status	Start	Ston		FY11 Q2			FY11 Q3			FY11 Q4	
IU	Task Natile	Status	Start	Stop	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	Initial Assessment	100	1/1/2011	1/15/2011									
2	Transfer Prep	100	1/1/2011	7/21/2011									
2a	Comment Source Code	100	1/1/2011	3/31/2011									
2b	Create Docs (CATBD, Flow Chart, MM, Readme)	100	1/1/2011	7/21/2011									
2c	Format data from binary to NetCDF	100	2/1/2011	4/30/2011									
3	Tranfer Code, Docs, and Data	100	5/21/2011	7/29/2011									
4	Verify Code, Docs, and Data	100	6/15/2011	8/5/2011									
5	Archive Code, Docs, and Data	100	7/8/2011	8/15/2011									
6	Provide Access to Code, Docs, and Data	0	8/1/2011	8/31/2011									
				·									

Aerosol Properties

CDR Product: TCDR - Aerosol Optical Thickness (AOT), 1981 – 2010 (430 GB)

GEOSS Societal Benefit: Disasters, Health, Climate, Ecosystems

Project Status

CDR is publicly available on the CDR web site
 Completed June 16

Next Action / Milestone

None



Project Risks

None

ID	Task Name	Status	Start	Ston		FY11 Q1			FY11 Q2			FY11 Q3			FY11 Q4			
ט	l ask Name	Status	Start	Start	Start	Stop	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	Initial Assessment	100	11/29/10	12/15/10														
2	Transfer Prep	100	1/1/2011	4/21/2011														
2a	Comment Source Code	100	1/1/2011	1/30/2011														
2b	Create Docs (CATBD, Flow Chart, MM, Readme)	100	1/1/2011	4/21/2011						1								
2c	Subset CDR variables	100	2/1/2011	4/21/2011														
2d	Format data from HDF to NetCDF	100	2/15/2011	4/21/2011							1							
3	Tranfer Code, Docs, and Data	100	3/21/2011	4/30/201			MAL											
4	Verify Code, Docs, and Data	100	4/15/2011	5/15/201														
5	Archive Code, Docs, and Data	100	5/8/2011	6/8/2011														
6	Provide Access to Code, Docs, and Data	100	6/1/2011	6/30/2011														

Outgoing Longwave Radiation - Top of Atmosphere

CDR Product: FCDR - HIRS OLR Time Series, monthly mean, 2.5 deg, 1979 – 2010 (20 MB)

GEOSS Societal Benefit: Energy, Climate, Ecosystems

Project Status

Sent final SA to PI

- PI received comments from Jason and Bill on netCDF attributes, and updated the attributes in his data file.
 - Final data file with appropriate metadata expected 8/5
- All parts will be ready for archive next week
- Received source code with README
 - completed Security Review, created Header Document
- · Received ATBD, Flow Chart, and MM

Next Action / Milestone

- Receive final data file from PI (8/5)
- Archive source code, documentation and data packages (8/8)
- Get data on THREDDS (8/14)
- Provide web access to CDR (8/15)



Project Risks

Minimal risk involved

ID	Task Name	Status	Start	Cton.		FY11 Q1			FY11 Q2			FY11 Q3			FY11 Q4	
IU	lask Name	Status	Start	Stop	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	Initial Assessment	100	11/29/2010	12/15/2010												
2	Transfer Prep	95	12/15/2011	7/22/2011												
2a	Comment Source Code	100	12/15/2011	3/31/2011												
2b	Create Docs (CATBD, Flow Chart, MM, Readme)	100	1/1/2011	4/30/2011												
2c	Format data for delivery	90	3/1/2011	7/22/2011												
3	Tranfer Code, Docs, and Data	90	4/1/2011	7/22/2011												
4	Verify Code, Docs, and Data	75	5/1/2011	7/30/2011												
5	Archive Code, Docs, and Data	0	6/1/2011	8/8/2011												
6	Provide Access to Code, Docs, and Data	0	7/1/2011	8/15/2011												

Sea Surface Temperature

CDR Product: TCDR - Pathfinder v5.2, Daily nighttime and daytime global SST fields, 1981-2010, (4000 GB) **GEOSS Societal Benefit**: Climate, Water, Ecosystems, Agriculture

Project Status

- SLA/SA signed by NODC
 - NODC will give NCDC a copy of data and put it on line nlt 8/31
 - NODC found error in header info, will have to fix & reprocess
- Documentation hire with CICS, official start date was 1 July
 - Kay has not received contract yet and won't deliver CATBD or other documentation until she sees it
 - Janice said contract has made some progress
 - Janice is also looking into pre-award option for Kay
- Separate SA needed for deliveries from Bob and Kay (UofM/CICS)
- Working on standard SA for the other parts of the CDR

Next Actions / Milestone

- Sign NODC SLA/SA (7/22) done
- Create SA for code/documentation (8/9)
- PI Deliver: Draft CATBD (8/15)
- NODC create complete set of netCDF data files (8/31)
- NODC deliver a copy of netCDF Data Files to NCDC as in SA (8/31)
- Archive complete CDR netCDF dataset (8/31)



- Processing from level 1b to HDF has been accomplished for all sats but header info was missing – looking into how to fix
- Documentation is via CICS consultant work has started
- Final SST data set will be served by NODC

ID	Task Name	Status	Ctort	C+on		FY11 Q1	l		FY11 (Q2		FY11 Q3			FY11 Q4	
טו	TASK NAME	Status	Start	Stop	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
1	Initial Assessment	100	11/29/10	12/15/10												
2	Create HDF product (v5.2) 1981-2010 (UoM)	100	12/15/10	5/21/11				N18	N16	N7 N9	N11 N14	1				
3	Convert HDF to netCDF (NODC)	75	2/1/11	6/30/11												
4	Comment Source Code	20	2/15/11	8/21/11						NODC		CICS H	lire			
5	Create Documents	10	2/15/11	8/21/11						NODC		CICS H	lire			
6	Tranfer Copy of Data, Code and Docs	5	5/1/11	8/31/11								Data		C&D		
7	Verify Data, Code and Docs	5	6/1/11	9/7/11									Data	C&D		
8	Archive Data, Code and Docs	0	7/1/11	9/15/11										Data	C&D	
9	Provide Access to Data, Code and Docs	0	8/1/11	9/21/11												
	(Point to Data served at NODC)															



CDR Program Office

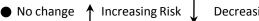
NPP/JPSS Climate Raw Data Records (C-RDRs) Project

Weekly Report – August 5, 2011

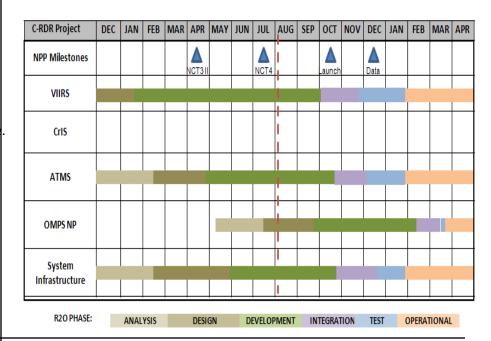
- VIIRS
- Began coding the VIIRS C-RDR generator application in ADL.
- 2 CrIS
- Developing code to write the CrIS C-RDR.
- Delaying CrIS C-RDR development until CrIS code is available.
- 3 ATMS
- Developing code to write the ATMS C-RDR.
- **OMPS NP**
 - Finished and tested Ver0.1 OMPS C-RDR prototype
- **System Infrastructure**
 - Analyzing data collected during NPP Compatibility Test 4.
 - Meeting scheduled to discuss CLASS C-RDR Charter.

Probability of occurrence

• Converted Upper Tropospheric temperature CDR data to netCDF.



Decreasing Risk



Risk and Mitigation

VIIRS, CrIS, ATMS, OMPS NP, System Infrastructure -

- Operational software is under maintenance, updated versions may affect C-RDR ported version.
- Contractor claims CrIS DR software is proprietary so cannot use for development. Working with old (2007) version of CrIS code. Delay till claim is resolved.

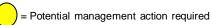
System Infrastructure -

• Availability of automated receipt of NPP RDRs from the CLASS system. Need to test ingest of RDRs from CLASS and develop an automated mechanism for re-requesting data.

Risk Matrix Will not meet metric Consequence 2 Significant delays Moderate Impact 3,4,5 Slight sched deviation Minimal Impact 1 0 20 40 60 80 100

On-track

PREDECISIONAL DRAFT INFORMATION



Visible Infrared Imaging Radiometer Suite (VIIRS)

C-RDR Product: Raw sensor measurements with usage and provenance metadata in easily accessible netCDF4 format **GEOSS Societal Benefit**: Climate, Water, Ecosystems, Agriculture, Biodiversity, Energy

Project Status

- Obtained and built the full release of ADL 3.0.
- Building a framework to use with ADL for support data files .
- Installed the new release at Boulder site for C-RDR supporting data files development.
- Coding the VIIRS C-RDR generator application in ADL.
- Updated the VIIRS Product Specification.
- Defined pre-processing for VIIRS supporting data files that are useable with ADL.
- Developing software to create the C-RDR, reusing the ADL.
- Completing release of netCDF4 file creation toolset.
- Developed and demonstrated toolset to define and initialize netCDF4 files.

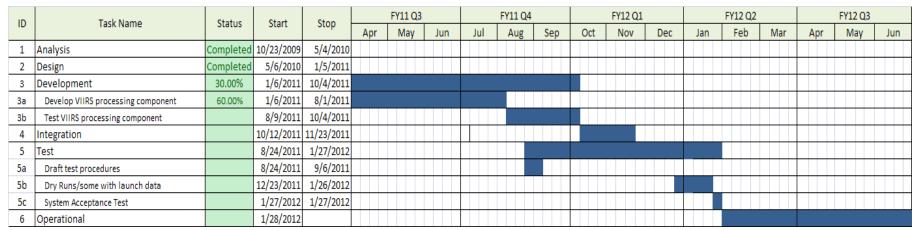
Next Action / Milestone

• Development complete for the VIIRS C-RDR



Project Risks

- Complexity of the NPP/JPSS RDRs and operational software
- Operational software is under maintenance, updated versions may affect C-RDR ported version



Cross-track Infrared Sounder (CrIS)

C-RDR Product: Raw sensor measurements with usage and provenance metadata in easily accessible netCDF4 format **GEOSS Societal Benefit**: Climate, Water, Energy

Project Status

- Wrote and tested CrIS C-RDR processing code to create proxy interferogram data-filled C-RDRs from input RDRs
- Developing and debugging code to create data structures for writing the C-RDR.
- Creating a MATLAB reader for the C-RDR to provide easy access.
- Evaluating processing of C-RDR with MATLAB and IDL

8/5/2011

- Defining the netCDF4 structure for the C-RDR and developing software for writing the C-RDR
- CrIS IDPS software changes are not available to contractors. This
 affects C-RDR and ADL development and Cal/Val teams, SDS.
- Ported operational algorithms (Space Dynamics Lab at Utah State)

Next Action / Milestone

- Delay until the CrIS SDR code is releasable. JPSS Program Office is working to resolve proprietary claims with BOMEM.
- Complete definition of CrIS C-RDR



Project Risks

- CrIS science algorithms not available to contractors: C-RDR team, cal/val teams, ADL developer cannot get CrIS SDR code. Our current version of CrIS code is from 2007.
- NPP Launch Date: October 25, 2011
- Complexity of the NPP/JPSS RDRs and operational software
- Operational software is under maintenance, updated versions may affect C-RDR ported version. Mitigated by using ADL.

ID	Task Name	Status	Ctort	Cton		FY11 0	22			FY11 Q3			FY11 Q4			FY12 Q1			FY12 Q2	
טו	Task Name	Status	Start	Stop -	Jan	Feb	Ma	r	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar
1	Analysis	Completed	8/16/2010	11/24/2010																
2	Design	90.00%	11/26/2010	2/15/2011																
3	Development		2/16/2011	7/22/2011							1									
3a	Develop CrIS processing component	60.00%	2/16/2011	5/11/2011																
3b	Test CrIS processing component		5/12/2011	7/22/2011			•													
4	Integration		7/25/2011	8/19/2011																
5	Test		9/1/2011	12/19/2011					F											
5a	Dry Runs/some with launch data		9/1/2011	12/12/2011																
5b	System Acceptance Test		12/12/2011	12/19/2011																
6	Operational		12/20/2011																	

Advanced Technology Microwave Sounder (ATMS)

C-RDR Product: Raw sensor measurements with usage and provenance metadata in easily accessible netCDF4 format **GEOSS Societal Benefit**: Climate, Water, Energy

Project Status

- Working with ADL 3.0 for integration of C-RDR routines.
- Developing code to write the C-RDR.
- Completed first draft of C-RDR contents.
- Defining the C-RDR format, contents, and metadata
- Identifying code and data structures required for C-RDR processing.
- Verified processing of ATMS algorithms
- IDPS ATMS algorithm executing in ADL at NCDC
- Evaluating IDPS algorithms in ADL
- Obtained ported operational algorithms (Space Dynamics Lab at Utah State)

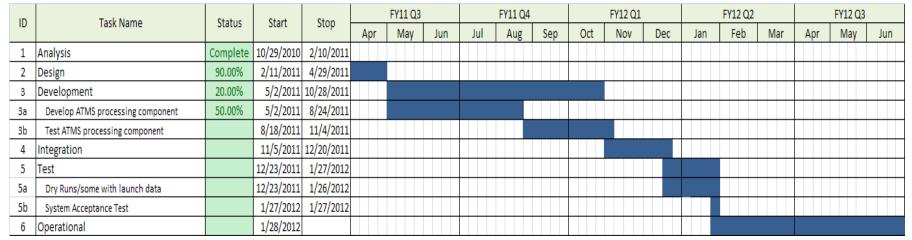
Next Action / Milestone

Develop the code to produce the C-RDR



Project Risks

- Complexity of the NPP/JPSS RDRs and operational software
- Operational software is under maintenance, updated versions may affect C-RDR ported version
- Developer shares time working NPP and CLASS issues.



Ozone Mapping Profile Suite (OMPS) Nadir

C-RDR Product: Raw sensor measurements with usage and provenance metadata in easily accessible netCDF4 format **GEOSS Societal Benefit**: Climate, Energy

Project Status

- Developing code to initialize the C-RDR file and fill in the C-RDR values.
- Received comments and created second draft of OMPS Nadir C-RDR prototype.
- Analyzing IDPS algorithms and documents to define the OMPS Nadir C-RDR structure.
- OMPS Nadir algorithms will be released in ADL 3.0.
- Analyzing the IDPS software for the OMPS Nadir SDR for the use in developing the C-RDR
- Updating the schedule for the OMPS Nadir C-RDR

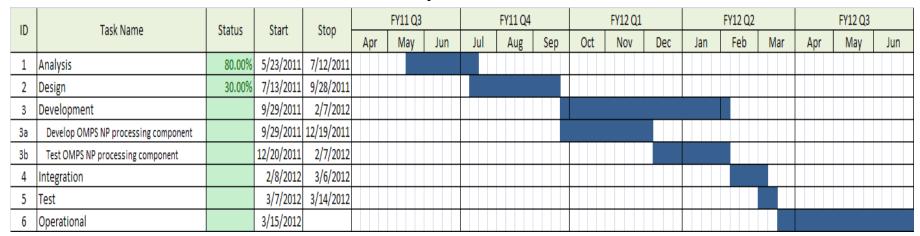
Next Action / Milestone

• Define the C-RDR format, contents, and metadata



Project Risks

- Complexity of the NPP/JPSS RDRs and operational software
- Operational software is under maintenance, updated versions may affect C-RDR ported version



C-RDR System Infrastructure

C-RDR Product: Infrastructure to automate the production of the C-RDRs.

GEOSS Societal Benefit: None

Project Status

- Analyzing data received from CLASS and SIPGenSys performance.
- Receiving RDRs from CLASS via subscription during NCT4.
- Completed throughput testing for SIPGenSys.
- Successfully transferred files from FTP Farm to Blade Center and ingested for RDR throughput test.
- Creating database tables and access procedures for the database to handle configuration files.
- Setting up configuration files and software for the ingest test.
- Developing an ingest test using the aggregated RDRs.
- · Working on database infrastructure design.
- · Analyzing existing ingest and dissemination capabilities.

Next Action / Milestone

• Perform the throughput test.



Project Risks

- Ability of CLASS to provide full stream of RDRs and ability to ingest stream of C-RDRs. Ability of CLASS to provide RDRs will be tested during NCT4.
- Need to develop an automated re-request mechanism for CLASS.

